

The Teletherm

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Outline

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The existential temporal escape room: [↗](#)



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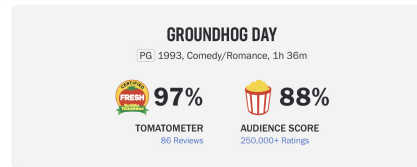
Groundhog day story things:

- Time loop movies achieves [Wikipedia list status](#)
- Also basically every video game is a Groundhog day situation.
- Trope with Trope Namer action: [“Groundhog Day” Loop](#)
- Phil Connors went through the temporal wringer for [maybe 30 to 40 years](#) ...
- Groundhog Day the Musical: Excellent.
- 2017-08-08: Bill Murray went to the see the musical on the opening night, unannounced. Took photos with the cast afterwards.
- And then went to see it again on the second night.

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The reviews:

[Rotten Tomatoes](#)



“Generally favorable” according to metacritic:
[60 to 90](#)

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End points:

- A [90 rating](#) on Metacritic from the Washington Post: “With a script as beautifully complex as this one, Ramis and his cast have half of their work done for them. There is a moral to the tale as well, and it even strikes an uplifting note. But, for once, the audience isn’t forced to surrender its intelligence (or its healthy cynicism) to embrace the film’s sunny resolution.”
- A [60 rating](#) on Metacritic, somehow also from the Washington Post: “The trouble is, you’ll feel like you’ve been through too many same days yourself. With its zany daily episodes, “Groundhog” gets stuck in a non-progressive repetition.”

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Living in the Big Tick Tock:

Predictable photon delivery:

- Solstice = “Sun + stand still”



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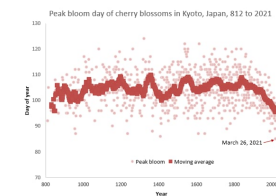
Solstices have some complications:

- June 20/21-ish: Northern hemisphere’s estival solstice and the Southern hemisphere’s hibernal solstice.
- December 21/22-ish: Northern hemisphere’s hibernal solstice and the Southern hemisphere’s estival solstice.
- But because of tilts and ellipses the [earliest and latest sunrises and sunsets](#) don’t happen on the solstice.
- Earliest sunset in Burlington, Vermont? 4:12 pm, December 9, 2021
- Latest sunrise in Burlington, Vermont? 7:29 am, December 30, 2021–January 9, 2022
- Varies across latitudes and planets.

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Cherry blossoms: The 12 hundred year data set

- WaPo, 2017: Japan’s cherry blossoms signal warmest climate in more than 1,000 years
- WaPo, 2021: Japan’s Kyoto cherry blossoms peak on earliest date in 1,200 years, a sign of climate change
- Data: <http://atmenv.envi.osakafu-u.ac.jp/aono/kyophenotemp4/>



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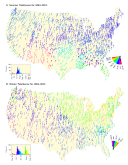
First leaves:

Finding the same trend towards earlier seasons, but detected using a different method—the date of first leaves in spring—and across the entire northern hemisphere:



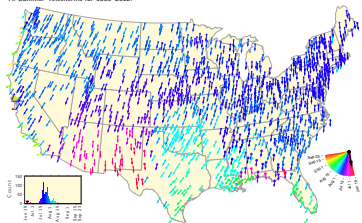
“Onset of spring starting earlier across the Northern Hemisphere”
Schwartz, Ahas, and Aasa,
Global Change Biology, **12**, 343–351, 2006. [2]

“Tracking the Teletherms: The spatiotemporal dynamics of the hottest and coldest days of the year”
Dodds, Mitchell, Reagan, and Danforth.
PLoS ONE, **11**, e0154184, 2016. [1]

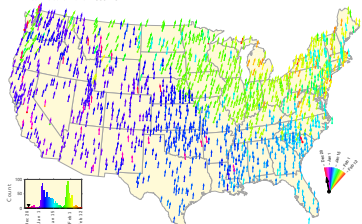


- Explore Teletherms online at <http://teletherm.org>
- The wrongness: 6000 Figures/300MB of Supplementary Information.
- Follow @teletherm

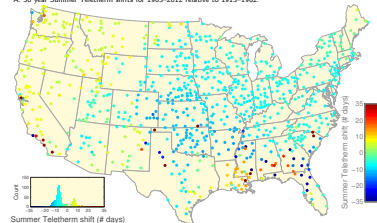
A. Summer Teletherms for 1853–2012:



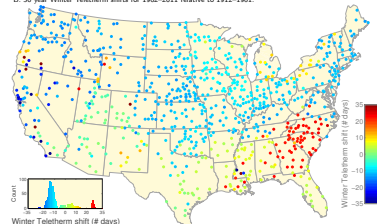
B. Winter Teletherms for 1853–2011:



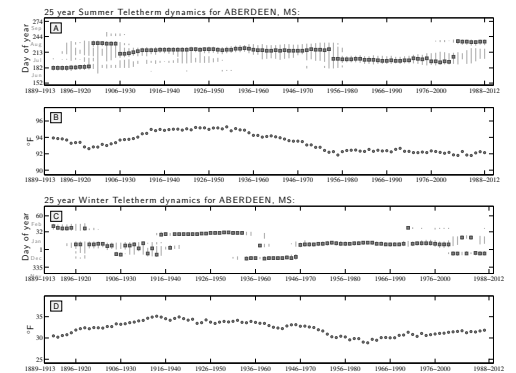
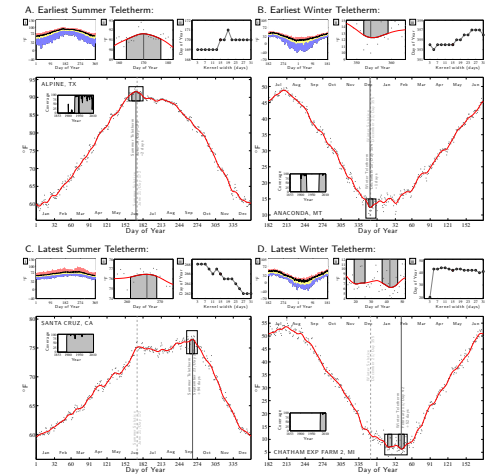
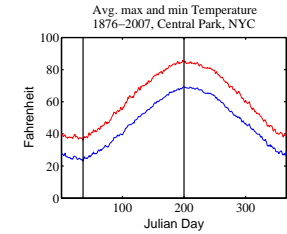
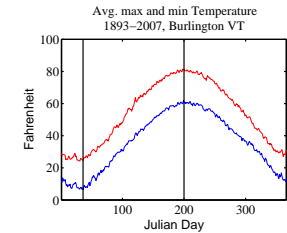
A. 50 year Summer Teletherm shifts for 1963–2012 relative to 1913–1962:

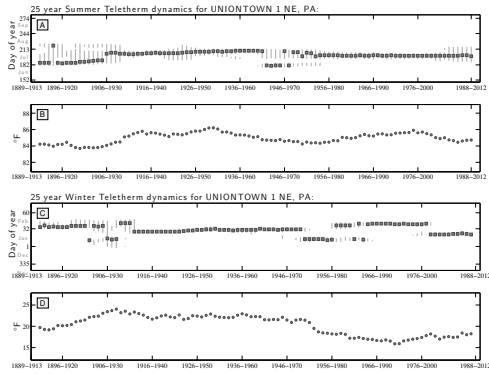


B. 50 year Winter Teletherm shifts for 1962–2011 relative to 1912–1961:

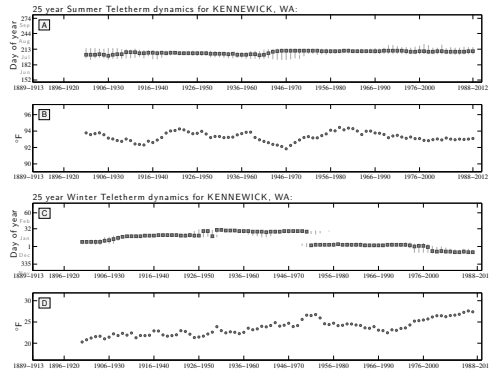


The Teletherm, an early conception:






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Unfinished work:

-  [Teletherm switching.](#)
-  [The full site \[teletherm.org\]\(https://teletherm.org\) and a paper.](#)

Johan Ugander + Claude, 2026:

<https://jugander.github.io/cryofront/teletherm.html>

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- [1] P. S. Dodds, L. Mitchell, A. J. Reagan, and C. M. Danforth. Tracking the Teletherms: The spatiotemporal dynamics of the hottest and coldest days of the year. *PLoS ONE*, 11:e0154184, 2016. [pdf](#)
- [2] M. D. Schwartz, R. Ahas, and A. Aasa. Onset of spring starting earlier across the Northern Hemisphere. *Global Change Biology*, 12:343–351, 2006. [pdf](#)

